



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

AS

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/775,022	02/09/2004	Visvesvaraya Pentakota	TI-37302	6960
23494	7590	03/08/2005	EXAMINER	
TEXAS INSTRUMENTS INCORPORATED			WELLS, KENNETH B	
P O BOX 655474, M/S 3999				
DALLAS, TX 75265			ART UNIT	PAPER NUMBER
			2816	

DATE MAILED: 03/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	10/775,022	PENTAKOTA ET AL.
	<b>Examiner</b>	<b>Art Unit</b>
	Kenneth B. Wells	2816

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1) Responsive to communication(s) filed on 09 February 2004.  
 2a) This action is **FINAL**.                            2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4) Claim(s) 1-5 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1-5 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) Notice of References Cited (PTO-892)  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
     Paper No(s)/Mail Date \_\_\_\_\_.

4) Interview Summary (PTO-413)  
     Paper No(s)/Mail Date. \_\_\_\_\_.  
 5) Notice of Informal Patent Application (PTO-152)  
 6) Other: \_\_\_\_\_.

Art Unit: 2816

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

2. Claims 1-5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, it makes no sense to compare a bandwidth to a switching rate (because these are measured in different units). This is like comparing a voltage to a current, i.e., one is defined in volts, and the other in amperes, so to recite that a maximum voltage is substantially greater than a maximum current would make no sense. Lines 2-3 of claim 3 similarly make no sense. Also in claim 1, it is not clear what is meant on lines 10-12 by "bias current varies as the input capacitance of the analog amplifier varies due to variations in the manufacturing process of the buffer". This limitation should be reworded so that it makes better sense. For example, manufacturing process variations exist between different circuits, whereas the bias current varying in proportion to input capacitance of the analog amplifier might exist in a specific (single) IC circuit. Applicant's present language makes no sense because it appears

Art Unit: 2816

to be "mixing apples and oranges". The same problem exists for the language on the last two lines of claim 1, i.e., it makes no sense to recite that the slope of the ramp signal will remain constant despite variations in the manufacturing process of the buffer. If two different buffer circuits are made under different manufacturing process, the slope of the ramp signal will inherent change from one buffer circuit to the next.

In claim 5, it is not understood what is meant by "switched-capacitor resistor". A switched-capacitor is a term of art, as is a resistor, but not a switched-capacitor resistor.

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 3 are rejected under 35 U.S.C. 102(b) as being anticipated by Jordan (U.S. Patent No. 5,574,392).

As to claim 1, note Fig. 4, where the recited "analog amplifier" reads on either amplifier 158 or amplifier 160 (or the combination of the two); the recited "converter circuit" reads on ramp generator circuit 156 (it receives a digital logic

Art Unit: 2816

signals D1 and D2); and the recited "bias circuit" reads on slew rate compensator 174. The remaining limitations of claim 1 cannot be relied upon to define over the prior art because they are indefinite and not understood, as noted above. As to claim 3, note Fig. 5 of Jordan '392.

4. Claims 1 and 3 are rejected under 35 U.S.C. 102(b) as being anticipated by Stuebing et al.

As to claim 1, note Fig. 1, where the recited "analog amplifier" reads on either amplifier 50; the recited "conerter circuit" reads on ramp generator circuit 20 (it receives a digital logic signals at input terminal 12); and the recited "bias circuit" reads on the combination of circuits 30 and 40. The remaining limitations of claim 1 cannot be relied upon to define over the prior art because they are indefinite and not understood, as noted above. As to claim 3, note Fig. 2 of Stuebing et al.

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at

Art Unit: 2816

the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over either Jordan '392 or Stuebing et al.

The recited details of the amplifier, though not disclosed by the two references, nevertheless would have been obvious to those having ordinary skill in the art because the recited amplifier is (a) well-known in the art, of which fact official notice is taken by the examiner, and (b) has well-known advantages in the art (thus providing the motivation for using such an amplifier when implementing the circuits of Jordan '392 and Stuebing et al). Thus, claim 2 does not distinguish patentably over the two above-noted prior art references.

6. Claims 4 and 5 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Note Fig. 4 of Jordan '515 which also discloses a ramp generator circuit 12 receiving digital inputs and outputting

Art Unit: 2816

ramp signals to an analog amplifier 110. The bias circuit of this reference is circuit 100.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kenneth B. Wells whose telephone number is (571)272-1757. The examiner can normally be reached on Monday through Friday from 8:30am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy P. Callahan, can be reached at (571)272-1740. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Kenneth B. Wells  
Primary Examiner  
Art Unit 2816

March 4, 2005